

appropriate to analyze any potential anticompetitive effect on the U.S. end of the circuit.²⁵⁵ We also note that many carriers still own capacity on a half-circuit basis. Our concern is whether the proposed merger could increase ownership concentration of U.S. half-circuits to such an extent that the combined entity would have the ability to exercise market power through unilateral or coordinated action. We examine cable ownership on an E-1 circuit basis, commonly referred to in cable transactions as a Minimum Investment Unit (MIU), although capacity may be purchased or provisioned in varying bandwidths.²⁵⁶

88. We take into account future capacity in our identification of market participants and in our measurement of market concentration if plans for capacity existed prior to the merger.²⁵⁷ To establish a reasonable level of certainty with regard to new cable systems, we take into account future cable systems for which a U.S. cable landing license has been granted and a construction contract has been signed.²⁵⁸ These cables are scheduled to become operational by the end of 1999. We recognize that other cable systems have been announced but currently lack a Commission license or signed construction contract. We will not use these cable systems in our calculations of market concentration because cable plans may be modified, delayed, or abandoned. We nonetheless consider these cables relevant to our examination of barriers to entry in the transport market.

²⁵⁵ See GTE Jan. 5 Petition at 37 n.74 ("the market for U.S.-side half-circuit capacity remains the most critical input for new carrier entry . . . [and] existing whole circuits likely would be covered by half-circuit data."). By contrast, in the *BT/MCI Order*, the Commission examined the whole-circuit market because MCI primarily owned half-circuits on the U.S. end and BT primarily owned half-circuits on the U.K. end. Our concern in that proceeding was the applicants' merged market power to the extent that the merger would have increased control over whole-circuits on the TAT-12/13 cable system. See *BT/MCI Order*, 12 FCC Rcd at 15403, para. 135 & n.185. We note here that, as part of a privatization auction on July 29, 1998, MCI won the bid for Embratel, the monopoly provider of long distance and international services in Brazil. See Letter from Kenneth A. Schagrin, Associate Counsel, MCI to Troy Tanner, Chief, Policy and Facilities Branch, Telecommunications Division, International Bureau, FCC in File No. FCN-98-020 (filed Aug. 11, 1998) (MCI File No. FCN-98-020 Aug. 11 Letter). WorldCom's U.S. half-circuit market presence in the Caribbean/Latin American region is minimal. See *infra* paras. 111-114. We discuss below the impact of MCI's recent purchase of Embratel. See *infra* note 359.

²⁵⁶ An E-1 circuit is a 2.048 Mbps circuit that is the equivalent of 30 64-Kbps voice-grade channels. As demand for greater bandwidth capacity increases, some carriers are obtaining international transport on an STM-1 basis, which is the equivalent of 63 E-1 circuits or 1,890 voice-grade channels. Sixty-four STM-1s, or 4,032 E-1 circuits, represent 10 Gbps of capacity.

²⁵⁷ See *1992 Horizontal Merger Guidelines*, 57 Fed. Reg. at 41562, § 3.2 n.27.

²⁵⁸ GTE asserts that in reviewing the international transport market, the Commission should "at a minimum" only consider those projects that have obtained a Commission license. See GTE June 11 Renewed Motion at 49. We find that entering into a supply contract usually requires a significant financial downpayment and, therefore, provides reasonable certainty that the cable system will be built.

89. *Atlantic Region.* The transatlantic route currently is served by a number of submarine cables (Columbus-II, TAT-8, -9, -10, -11, -12/13, PTAT, CANTAT-3, Gemini, and Atlantic Crossing (AC-1)). The TAT-12/13 submarine cable system, placed into service in 1995, was the first of the "state-of-the-art" systems using a self-healing ring configuration that permits instantaneous self-restoration.²⁵⁹ TAT-12/13 provides 4,032 E-1 circuits of capacity, which, at the time it was introduced, nearly doubled the previously existing transatlantic cable capacity.²⁶⁰ More recently, two new submarine cable systems with the self-healing ring configuration have initiated service on the transatlantic route. Both the AC-1 and Gemini cable systems were introduced into service in the first half of 1998.²⁶¹ AC-1 presently provides capacity equivalent to 8,064 E-1 circuits,²⁶² and Gemini offers the equivalent of 4,032 E-1 circuits on the transatlantic route.²⁶³ Together, these three cables presently account for approximately 75 percent of the capacity in the transatlantic region.²⁶⁴

90. We do not agree with GTE that for purposes of this merger we should only take into account capacity on TAT-12/13, as the Commission did in the *BT/MCI Order*.²⁶⁵ At that time, TAT-12/13 represented the only advanced transatlantic cable system, offering the most cost-effective, reliable means of transporting calls between the United States and the United Kingdom.²⁶⁶ As noted above, however, Gemini and AC-1 have been placed into

²⁵⁹ See *In the Matter of AT&T et. al Joint Application for a Cable Landing License to Construct and Operate a High Capacity Digital Submarine Cable Network Between the United States, the United Kingdom, and France*, File No. SCL-93-004, Cable Landing License, 8 FCC Rcd 4808 (1993).

²⁶⁰ See *1996 Circuit Status Report* at Table 7.

²⁶¹ See *First Segment of Atlantic Crossing Ready for Service*, Communications Today, June 19, 1998; *Gemini Turns Up Trans-Atlantic System*, Communications Today, Mar. 13, 1998.

²⁶² See *Atlantic Crossing, The Project: System Technology* <<http://www.atlantic-crossing.com/project/technical.htm>>.

²⁶³ The Applicants indicate that 2,016 E-1 circuits went into service on Gemini as of March 31, 1998 and an additional 2,016 E-1 circuits will be in service by September 30, 1998. See *WorldCom/MCI Jan. 26 Reply Comments* at 63 n.99. For purposes of our analysis, we consider 4,032 E-1 circuits of capacity to be currently in service on Gemini.

²⁶⁴ See *1996 Circuit Status Report* at Table 7. We rely on the cable capacity numbers in the *1996 Circuit Status Report* for capacity on all the cables except for AC-1 and Gemini. For AC-1 and Gemini we rely on sources identified in this paragraph.

²⁶⁵ See *GTE Jan. 5 Petition* at 36-37.

²⁶⁶ See *BT/MCI Order*, 12 FCC Rcd at 15390, para. 98 & 15402, paras. 134-135 (examining TAT-12/13 for purposes of determining market concentration).

service since that time. Given that all three cables are designed to offer state-of-the-art technology and account for the bulk of transatlantic transport capacity, we consider them a reasonable measure of the total capacity in the Atlantic region.

91. At least 59 entities currently own U.S. half-circuits on the TAT-12/13, Gemini, and AC-1 cables.²⁶⁷ Today, Global Crossing, the non-carrier owner of AC-1, owns 50 percent of the current capacity on the U.S. end of the transatlantic route, by far the largest amount held by any entity; WorldCom is the next largest owner with 14.0 percent, followed by C&W with 12.9 percent, AT&T with 8.1 percent, MCI with 6.9 percent, Sprint with 1.7 percent, and BT with 1.6 percent.²⁶⁸

92. We note here that the amount of capacity on these three cables is expected to increase 150 percent by the end of 1999. Both Gemini and AC-1 will complete construction of their ring configurations, with each system offering 8,064 E-1 circuits of capacity in addition to their capacity already in service.²⁶⁹ The capacity on TAT-12/13 is scheduled to triple to 12,092 E-1 circuits by the end of 1999 as a result of wave division multiplexing (WDM) upgrades.²⁷⁰ This additional capacity results in a shift in ownership shares. By the end of 1999, Global Crossing's share of transatlantic capacity will be 40 percent, followed by WorldCom with 17.2 percent, C&W with 15.9 percent, AT&T with 7.8 percent, MCI with 6.1 percent, BT with 3.7 percent, Deutsche Telekom with 1.8 percent, and Sprint with 1.6 percent.

²⁶⁷ See TAT-12/13 Construction and Maintenance Agreement Revised Schedules at Schedule C-5 (effective Dec. 9, 1997) (Dec. 1997 TAT-12/13 Schedules).

²⁶⁸ See *id.*; Letter from Robert S. Koppel and Kerry E. Murray, WorldCom to Magalie Roman Salas, Secretary, FCC, Attach. at 1 & 3 (filed July 2, 1998) (WorldCom July 2 *Ex Parte* I); Atlantic Crossing, *About Global Crossing Ltd.* <<http://www.atlantic-crossing.com/contact/telesystems.htm>>. WorldCom and C&W each hold an indirect 50 percent interest in Gemini Submarine Cable System Limited, which owns and operates the Gemini cable system. See WorldCom July 2 *Ex Parte* I Attach. at 1. For purposes of this proceeding, we assign ownership of 50 percent of Gemini's circuits to WorldCom and C&W each.

²⁶⁹ Gemini will offer a total of 30 Gbps of customer capacity, equivalent to 12,096 E-1 circuits, upon completion in 1999. See Letter from Robert S. Koppel and Kerry E. Murray, WorldCom, to Magalie Roman Salas, Secretary, FCC, at 1 (filed Aug. 21, 1998) (WorldCom Aug. 21 *Ex Parte*); Gemini, *Solutions: Operational Benefits* <<http://www.gemini.bm/solutions/index.html>>. AC-1 will offer a total of 40 Gbps of service capacity, equivalent to 16,128 E-1 circuits, upon completion, which is scheduled for 1999. See Prospectus of Global Crossing Ltd. at 46 (Aug. 10, 1998). Global Crossing notes that AC-1 is upgradeable to 80 Gbps. See *id.*

²⁷⁰ See TAT-12/13 WDM Upgrade Program Schedules at Schedule C-10 (1997 TAT-12/13 WDM Upgrade Schedules); TAT-12/13 WDM-3 Upgrade Program Schedules at Schedule C-15 (Feb. 3, 1998) (1998 TAT-12/13 WDM-3 Upgrade Schedule).

93. *Pacific Region.* The transpacific route currently is served by a number of submarine cable systems (HAW-4/TPC-3, NPC, TPC-4, PacRimEast, and TPC-5). The TPC-5 cable system is the only facility that uses the "state-of-the-art" self-healing ring configuration. TPC-5 offers 4,032 E-1 circuits, which is nearly 72 percent of current transpacific capacity.²⁷¹ Given that the TPC-5 cable is the only self-healing ring system on the transpacific route and that it represents the bulk of transport capacity, we consider it a reasonable measure for current capacity on the transpacific route. At least 78 entities own U.S. half-circuits on TPC-5.²⁷² AT&T owns 38.8 percent of the capacity, followed by MCI with 21.6 percent, Sprint with 8.8 percent, Kokusai Denshin Denwa Co., Ltd (KDD) with 6.5 percent, and WorldCom with 4.1 percent.²⁷³

94. We note that the amount of capacity in the transpacific region is expected to increase nearly ten-fold by the end of 1999. Construction on the China-U.S. cable system, which will provide the equivalent of 32,256 E-1 circuits on the transpacific route, is scheduled to begin in 1998 and service is set to be offered in December 1999.²⁷⁴ In addition, WDM upgrades will double capacity on the TPC-5 cable.²⁷⁵ This additional capacity results in a shift in ownership shares. AT&T's share of transpacific capacity will likely be 12.1 percent, followed by MCI with 8.5 percent, KDD with 7.4 percent, Sprint with 6.7 percent,

²⁷¹ See 1996 Circuit Status Report at Table 7.

²⁷² See TPC-5 Construction and Maintenance Revised Schedules (effective Nov. 1, 1997) (Nov. 1997 TPC-5 Revised Schedules).

²⁷³ In examining ownership of TPC-5, we note that the northern segment consists of a single path between Japan and the mainland United States, and the southern route consists of five separate ownership segments: mainland United States-Hawaii; mainland United States-Guam; Hawaii-Guam; Hawaii-Japan; and Guam-Japan. See *id.* For purposes of this merger, we consider as relevant ownership of U.S. half-circuits on the following routes: the northern route (Schedule G4); the mainland United States-Guam route (Schedule G5); and the Hawaii-Japan route (Schedule G6). We did not include in our calculation the United States mainland-Hawaii route (Schedule G1), because we consider this route a U.S. domestic route. We did not include the Hawaii-Guam and Guam-Japan routes, which account for under 5 percent of TPC-5 capacity (Schedule F) and which are physically accounted for on the U.S. mainland-Guam and Hawaii-Japan routes.

²⁷⁴ AT&T Corp. *et al.*, File No. SCL-98-002, Cable Landing License, DA 98-1711 (Tel. Div. Int'l Bur. rel. Aug. 28, 1998); Alcatel, *Share of U.S. \$950 Million Trans-Pacific Contract for Alcatel* <http://www.alcatel.com/press/current/1997/french/12_12c.htm>.

²⁷⁵ See TPC-5 Revised Schedules B Through G to the Construction and Maintenance Agreement (effective June 1, 1998).

and ten carriers with approximately 5.5 percent each; WorldCom will have approximately 1.1 percent of the U.S. half-circuits on the transpacific route.²⁷⁶

95. *Caribbean/Latin American Region.*²⁷⁷ For purposes of reaching the Caribbean/Latin American region, the primary cable routes are from the U.S. mainland to the U.S. Virgin Islands and, to a lesser extent, Puerto Rico. The U.S. Virgin Islands and Puerto Rico serve as hubs for U.S. international traffic destined for other Caribbean islands and Latin America. Americas-I and Columbus-II, which extend from the U.S. mainland to the U.S. Virgin Islands and beyond, provide the bulk of transport capacity to the Caribbean/Latin American region. Each of these cables has a capacity of 2,016 E-1 circuits between the U.S. mainland and the U.S. Virgin Islands.²⁷⁸ In addition, the TCS-1 cable, which offers 252 E-1 circuits of capacity, provides service from the U.S. mainland to Puerto Rico.²⁷⁹

96. We note here that, on July 29, 1998, MCI acquired Embratel, the Brazilian long distance and international services monopoly provider.²⁸⁰ The acquisition was subsequently consummated with MCI's first payment made in early August. For purposes of our analysis in this proceeding, we consider Embratel to be part of MCI. We therefore examine the impact of WorldCom merging with MCI and Embratel. MCI's share of the U.S. half-circuit market thus includes capacity owned by Embratel.

²⁷⁶ See *id.*; China-U.S. Cable Network Construction and Maintenance Agreement, Schedule G (effective Dec. 11, 1997) (China-U.S. C&MA). Forty-seven entities hold ownership interests in the China-U.S. cable, which will provide transpacific and intra-Asia transport capacity. The China-U.S. C&MA assigned each owner a certain number of capacity "points" which may be used to obtain transpacific or intra-Asia capacity. See China-U.S. C&MA at Schedule G & Annex 4. For purposes of identifying transpacific capacity ownership, we apply each owner's percentage of capacity points to the total capacity on the cable, and then assign the carrier that percentage of the transpacific capacity. For example, AT&T has 5,292 points, which account for 6.7 percent of the 78,757 total points on the cable. Thus, we assign AT&T 6.7 percent of the transpacific capacity on the China-U.S. cable.

²⁷⁷ We note here that no party raised concerns regarding the Caribbean/Latin American international transport market. We nonetheless examine this market to ensure that we undertake a comprehensive analysis in this proceeding.

²⁷⁸ See Americas-I Construction and Maintenance Agreement Revised Schedules at Schedule D-1 (effective Sept. 19, 1997) (Americas-I C&MA); Columbus-II Construction and Maintenance Agreement Revised Schedules at Schedule D-2 (effective Sept. 19, 1997) (Columbus-II C&MA).

²⁷⁹ See TCS-I Construction and Maintenance Agreement Revised Schedules at Schedule D at 1 (effective Aug. 1, 1997) (TCS-I C&MA).

²⁸⁰ See MCI File No. FCN-98-020 Aug. 11 Letter.

97. There are at least 45 owners of U.S. half-circuits on the U.S. mainland - U.S. Virgin Islands/Puerto Rico route. AT&T is currently the largest owner of capacity on this route with a market share of 45.1 percent, followed by MCI with 17.4 percent, Sprint with 8.5 percent, Tele globe with 3.9 percent, WorldCom with 3.7 percent, and Telefonica Large Distancia de Puerto Rico, Inc. (TLDI) with 3.7 percent.²⁸¹

98. As noted above, U.S. international traffic to this region extends from the U.S. Virgin Islands/Puerto Rico to Latin American countries and Caribbean islands via several undersea cables. Americas-I currently provides 758 E-1 circuits of transport capacity along the northeast coast of South America, and TCS-1 provides 126 E-1 circuits from Puerto Rico to Colombia.²⁸² The Pan American Cable System is under construction and is scheduled to begin service from the U.S. Virgin Islands to the west coast of South America in the fall of 1998, initially providing an additional 2,016 E-1 circuits in the region.²⁸³ Taking into account these cables, ownership shares along the U.S. Virgin Islands/Puerto Rico - Latin America route will be as follows by the end of 1999: MCI with 24.5 percent; AT&T with 21.5 percent; Sprint with 10.9 percent; Telecom Italia with 8.6 percent; Telefonica de Espana, S.A. with 5.9 percent; WorldCom with 5.2 percent; Empresa Nacional de Telecomunicaciones de Colombia with 3.1 percent; and Compania Anonima Nacional Telefonos de Venezuela (CANTV) with 3.0 percent.²⁸⁴

99. Other cables, including Antillas I, TCS-1, and TAINO-CARIB, provide transport capacity for U.S. international traffic from the U.S. Virgin Islands and Puerto Rico to other Caribbean islands.²⁸⁵ Combined ownership shares for these cables are: AT&T with 36.9 percent; the Bahamas Telecommunications Corp. (Batelco) with 24.2 percent; MCI with 9.7 percent; TLDI with 6.1 percent; Sprint with 5.2 percent; Compania Dominicana de

²⁸¹ See Americas-I C&MA at Schedule D-1; Columbus-II C&MA at Schedule D-2; TCS-I C&MA at Schedule D at 1.

²⁸² Americas-I C&MA at Schedules D-2; TCS-I C&MA at Schedule D at 3.

²⁸³ See Pan American Cable System Construction and Maintenance Agreement at 6 (effective Dec. 5, 1996) (Pan American C&MA); *Americatel Corp. et al.*, File No. 97-001, Cable Landing License, 13 FCC Rcd 850 (Tel. Div. Int'l Bur. 1998); Alcatel, *Submarine Network References -- South Atlantic* <<http://www.alcatel.com/telecom/snd/refs/southatl>>.

²⁸⁴ See Americas-I C&MA at Schedule D-1; Pan American C&MA at Schedule D1; TCS-I C&MA at Schedule D at 3.

²⁸⁵ For purposes of our analysis, we include in this group of cables the Bahamas-II cable from Florida to the Bahamas and the Columbus-II segment from Florida to Mexico because, like capacity from the U.S. Virgin Islands and Puerto Rico, these cables serve the Caribbean Basin.

Telefonos (Codetel) with 2.6 percent; and WorldCom with 2.4 percent.²⁸⁶ On any single cable, MCI will hold no more than 17.6 percent and WorldCom will hold no more than 4.9 percent.²⁸⁷

c. Analysis of Competitive Effects

100. We find that the merger will increase concentration in each of the three international transport market regions. It likely will not result in anticompetitive effects, however, given the low barriers to entry and the substantial amount of non-MCI WorldCom transport capacity that will become operational by the end of 1999 in the Atlantic and Pacific regions. In the Caribbean/Latin American region, we find that low barriers to entry, coupled with the limited presence of WorldCom as a provider of transport capacity, makes it likely that the merger will not result in anticompetitive effects.²⁸⁸

101. As dynamic change occurs in the transport market in all three regions, we consider the competitive effects of the proposed merger by the end of 1999, when committed capacity will be operational,²⁸⁹ and in the future. With regard to future capacity, we note that WDM upgrades, which can substantially increase transport capacity on existing cables, can be implemented in less than a year. Moreover, planning and construction of a new cable system can be implemented within two years.

102. *Atlantic Region.* We find that, despite the rise in concentration in the cable capacity market resulting from the merger, the combined entity likely will not have the ability to exercise market power, either unilaterally or in a coordinated manner, because low entry

²⁸⁶ See Columbus-II C&MA at Schedule D-1; TCS-1 C&MA at Schedule D at 2 and 5; AT&T Corp. *et al.*, Memorandum Opinion, Order and Authorization, DA 96-1234 (rel. Aug. 6, 1996); Ursus Telecom Corp., Modification of Cable Landing License, DA 98-1674 (rel. Aug. 21, 1998) (modifying the Bahamas II cable landing license); TAINO-CARIB Construction and Maintenance Agreement at Schedule D at 3-4 (Nov. 1, 1997) (TAINO-CARIB C&MA); Antillas I Construction and Maintenance Agreement at Schedule D-1 (May 21, 1996). For Bahamas II, we use voting interests in making our calculation rather than information available on segment allocation, because the voting interests are more complete.

²⁸⁷ See TAINO-CARIB C&MA at Schedule D at 3 (ownership on the U.S. Virgin Islands - Puerto Rico route).

²⁸⁸ We note here that submarine cable development involves substantial financing and planning. Nevertheless, in light of significant reductions in construction costs, rapid deployment rates, increases and expected increases in demand for capacity, as well as empirical evidence that new submarine cables are being planned and constructed across the globe, we find below that barriers to entry are sufficiently low to allow new entry into submarine cable capacity markets.

²⁸⁹ See *supra* para. 88.

barriers exist and a substantial amount of non-MCI WorldCom capacity is becoming operational on the transatlantic route.

103. As an initial matter, the amount of capacity on this route is increasing substantially. In 1995, TAT-12/13 nearly doubled the transport capacity on the transatlantic route by adding 4,032 E-1 circuits of capacity. Thus far in 1998, Gemini and AC-1 have added an additional 12,096 E-1 circuits, a three-fold increase over the TAT-12/13 capacity. The record indicates that by the end of 1999, current capacity will more than double for a total capacity equivalent to 40,320 E-1 circuits. All told, the self-healing ring capacity on the transatlantic route is expected to increase ten-fold between the beginning of 1998 and the end of 1999. This growth in capacity has been driven by demand for additional bandwidth, in large part due to Internet and data traffic. Capacity growth, no doubt, has also been driven by anticipated demand in the future. Despite GTE's assertion,²⁹⁰ the record does not provide evidence that, taking into consideration the new 1998 capacity, a shortage of capacity exists presently or will develop in the near future for new entrants on the transatlantic route. Even if AC-1 has sold 70 percent of its capacity,²⁹¹ the remaining capacity available on that system is the equivalent of nearly 2,500 E-1 circuits. This amount of capacity represents 60 percent of today's capacity on TAT-12/13.

104. WorldCom and MCI together would currently own 20.9 percent of the U.S. half-circuits on TAT-12/13, Gemini, and AC-1.²⁹² As noted above, additional capacity will soon come into service. By the end of 1999, the MCI WorldCom combined ownership would increase to 23.3 percent.²⁹³ Using ownership shares for the end of 1999, the proposed merger would increase the HHI concentration by approximately 200 points, from 2,265 to 2,480.²⁹⁴

²⁹⁰ See GTE Jan. 5 Petition at 40; GTE Mar. 13 Comments at 59-60.

²⁹¹ See GTE Jan. 5 Petition at 39-40.

²⁹² MCI owns 6.9 percent of the U.S. half-circuits and WorldCom owns 14.0 percent, for a combined ownership share of 20.9 percent of the U.S. end of transatlantic cable capacity. See *supra* para. 91.

²⁹³ WorldCom will own 17.2 percent of the U.S. half-circuits and MCI will own 6.1 percent, for a combined ownership share of 23.3 percent of the U.S. end of transatlantic cable capacity. See *supra* para. 92. The facts do not support GTE's claim that the combined entity will, "in large measure," control the new capacity on the transatlantic route. See GTE Jan. 5 Petition at 40. MCI WorldCom would own less than 25 percent of the new capacity scheduled to be in service by the end of 1999.

²⁹⁴ The nine largest owners of capacity account for 95.2 percent of the capacity on the transatlantic route. See Dec. 1997 TAT-12/13 Schedules; 1997 TAT-12/13 WDM Upgrade Schedules; 1998 TAT-12/13 WDM-3 Upgrade Schedules; Gemini, *Solutions: Operational Benefits* <<http://www.gemini.bm/solutions/index.html>>; Prospectus of Global Crossing at 46; see also *supra* note 268. The remaining owners, who number at least 50, account for 4.8 percent of the capacity; none of these remaining owners holds one percent or more of the

As we discussed above, however, we believe that ownership shares may overstate the market presence of cable owners, because they do not consider the control of existing capacity held by IRU leaseholders.²⁹⁵ As a result, using only ownership shares is likely to increase the level of concentration in the transport market compared to the level if IRUs were taken into account. For example, taking into account even a limited amount of information regarding IRU leaseholds in capacity on the Gemini and AC-1 cable systems, we find that a reasonably conservative estimate of the pre-merger HHI at the end of 1999 could be 1,503 points, and that the merger could result in a HHI of 1,882 points.²⁹⁶ Unfortunately, full IRU leasehold

unassigned capacity. For purposes of calculating the HHI, we use the market shares of the nine largest capacity owners and do not assign a value to the remaining owners' market shares, given their minimal market presence. We note that because the remaining owners have market shares less than or equal to one percent, the HHI would be increased by, at most, an amount equal to the combined market shares of these small fringe firms. We further note the change in the HHI calculation resulting from the merger would be unaffected by the inclusion of these firms in our calculation.

²⁹⁵ See *supra* para. 86.

²⁹⁶ We take into account the following information and assumptions in order to derive this reasonably conservative HHI calculation. With regard to Gemini, WorldCom submits that as of August 21, 1998, 17 entities have purchased IRUs totaling a combined 82 STM-1s, or 5,166 E-1 circuits. WorldCom asserts that it has purchased capacity equivalent to 2,268 E-1 circuits on Gemini, that C&W and one other carrier have each purchased 1,008 E-1 circuits, and that the remaining 14 IRU holders have purchased a total of 14 STM-1s, or 882 E-1 circuits. See WorldCom Aug. 21 *Ex Parte* at 1-2. WorldCom states that MCI does not own any capacity in Gemini. See WorldCom July 2 *Ex Parte* I Attach. at 1 n.2. For purposes of this calculation, we assign the 1,008 E-1 circuits purchased by the unknown carrier to AT&T, the carrier that owns the largest amount of capacity on the transatlantic route other than WorldCom and C&W. This will provide the most conservative calculation of market concentration. Because Gemini sells IRU leaseholds in the amount of 1 STM-1 or greater, see *id.* Attach. at 1 n.1, we assign 1 STM-1, or 63 E-1 circuits, to each of the 14 next largest owners of transatlantic capacity, other than WorldCom, C&W, AT&T, and MCI. One hundred and ten STM-1s, or 6,930 E-1 circuits, of Gemini's total capacity remain unsold. Because WorldCom and C&W each indirectly own 50 percent of Gemini, we also assign these carriers 50 percent of the remaining unsold capacity, or 3,465 E-1 circuits, each. With regard to AC-1, a total of 256 STM-1s, or 16,128 E-1 circuits, of capacity will be available by the end of 1999. AC-1 owner Global Crossing Ltd. indicates that at least 22 entities have thus far purchased 97 STM-1s, or 6,111 E-1 circuits (stating that at least 22 entities have purchased 19 percent of a possible 512 circuits, which is equivalent to 97 STM-1s of capacity). See Prospectus of Global Crossing at 47. WorldCom states that it may purchase up to ten percent of capacity available on AC-1. See WorldCom July 2 *Ex Parte* I Attach. at 3. We therefore assign WorldCom ten percent of capacity on AC-1, regardless of its current share of 16 STM-1s, or 1,008 E-1 circuits. See WorldCom Aug. 21 *Ex Parte* at 2. The largest single customer has acquired 20 STM-1s, or 1,260 E-1 circuits. Telephone conversation with Ian McLean, Vice President of Global Crossing Ltd. (Aug. 20, 1998) (*memorialized in* Memorandum from Cathy Hsu, International Bureau, FCC to CC Docket No. 97-211 (Aug. 20, 1998)). To provide for the most conservative calculation, we assign this capacity to MCI. We distribute the remaining 61 STM-1s of capacity among 20 customers. We note here that the record indicates that Global Crossing sells IRU leaseholds in the amount of 1 STM-1 or greater, see Atlantic Crossing, *The Project: Service Overview* <<http://www.atlantic->

information is not publicly available on a cable specific basis. Nonetheless, we recognize that according to the *1992 Horizontal Merger Guidelines*, the post-merger market based on available data would still be considered moderately to highly concentrated and that the merger would be presumed to raise significant concerns that it might create or facilitate the exercise of market power.²⁹⁷ We note again, however, that an HHI analysis alone is not determinative and does not substitute for our more detailed examination of competitive considerations.²⁹⁸ In the context of a market as dynamic as the transatlantic transport market, we find that the increase in concentration resulting from the merger is not likely to have anticompetitive effects.

105. Contrary to GTE's contention, we conclude that the proposed merger would not make entry more difficult for competitive U.S. carriers, nor would it result in higher costs of services for retail U.S. international markets.²⁹⁹ Rather, the record suggests that entry by new carriers or investor groups in this market would be timely, likely, and sufficient to deter or counteract any competitive concerns.³⁰⁰ As the Applicants indicate, commercial and regulatory barriers to constructing and operating new cable systems are decreasing significantly.³⁰¹ A firm or group of firms can decide to construct and begin operating a new cable system in response to an exercise of market power within two years. The recent examples of Gemini and AC-1 demonstrate that cable systems can begin service within two years of planning and initial construction.³⁰² In addition, the per-unit cost of constructing new

crossing.com/project/service_overview.htm>; WorldCom July 2 *Ex Parte* I Attach. at 1 n.1. Again, to provide for the most conservative calculation, we assign 42 STM-1s, or 2,646 E-1 circuits, to AT&T, and 1 STM-1, or 63 E-1 circuits, to the 19 other customers, including incumbent carriers Sprint, BT, C&W, Deutsche Telekom, and France Telecom. We assign the balance of unsold capacity on AC-1, 149 STM-1 or 9,387 E-1 circuits, to Global Crossing. With regard to TAT-12/13, we use ownership shares available in the TAT-12/13 Schedules. See Dec. 1997 TAT-12/13 Schedules; 1997 TAT-12/13 WDM Upgrade Schedules; 1998 TAT-12/13 WDM-3 Upgrade Schedules.

²⁹⁷ See *1992 Horizontal Merger Guidelines*, 57 Fed. Reg. at 41558, § 1.51.

²⁹⁸ See *supra* para. 37.

²⁹⁹ GTE Jan. 5 Petition at 36, 41.

³⁰⁰ See *1992 Horizontal Merger Guidelines*, 57 Fed. Reg. at 41561, § 3.

³⁰¹ See WorldCom/MCI Mar. 20 Reply Comments at 54.

³⁰² See *Gemini Turns Up Trans-Atlantic System*, Communications Today, Mar. 13, 1998 (noting that Gemini went from conception to carrying live traffic in 18 months); Atlantic Crossing, *The Project: Implementation Timetable & Schedule of Upcoming Events* <<http://www.atlantic-crossing.com/Project/timetable.htm>>.

capacity continues to decrease dramatically. The Applicants note that the construction costs of capacity on AC-1 were just one-third of the costs of capacity on TAT-12/13.³⁰³ Existing capacity owners, moreover, do not control assets required for entry, thereby allowing new entrants to respond fully to demand for additional capacity. In addition, entry has been further facilitated by World Trade Organization (WTO) Member implementation of commitments made as part of the WTO Agreement on Basic Telecommunications Services (Basic Telecom Agreement), resulting in the removal of foreign investment restrictions and licensing hurdles that previously hampered the rapid deployment of new cable systems.

106. We note that additional transatlantic cables are already in the planning stages and are scheduled to be in service between late 1999 and late 2001. We do not include these cables in our analysis of transport capacity because they do not meet our standard of reasonable certainty in examining planned capacity: grant of a U.S. cable landing license and a construction contract.³⁰⁴ We nonetheless find that these cables, even at their current stage, suggest the existence of low entry barriers. Columbus-III would add 4,032 E-1 circuits on the transatlantic route with capability for a four-fold capacity upgrade.³⁰⁵ In addition, a group of

³⁰³ See Letter from Andrew D. Lipman, Swidler & Berlin, Counsel for WorldCom, to Magalie Roman Salas, Secretary, FCC at Attach. 1 at 12 (filed May 1, 1998) (stating that a 64 Kbps half-circuit on TAT-12/13 costs \$3,000, whereas the same capacity on AC-1 costs \$1,000). Indeed, the Commission recently reported that the annual investment cost per usable circuit continues to fall as the cost of AC-1 is less than 30 percent of TAT-12/13. See FCC, *Trends in the U.S. International Telecommunications Industry* (Com. Car. Bur., Aug. 1998) at Table 12.

³⁰⁴ See *supra* para. 88.

³⁰⁵ We note here that the International Bureau has granted a special temporary authorization (STA) for the Columbus-III cable. Special Temporary Authority for AT&T Corp. *et al.*, File No. TAO-2627 (Mar. 6, 1998, Sept. 2, 1998) (Columbus-III STA). An STA does not constitute a section 214 authorization or a cable landing license, and thus we do not include this cable in our analysis of concentration of cable capacity in the Atlantic region. An application is pending before the Commission. See AT&T Corp. *et al.*, ITC-98-437, at 12 (filed May 27, 1998). Pursuant to section 1.767(b) of our rules, 47 C.F.R. § 1.767(b), the Cable Landing License Act, 47 U.S.C. §§ 34-39 (1994), and Executive Order No. 10530, *reprinted as amended* in 3 U.S.C. § 301 app. at 459-60 (1994), we have informed the Department of State of the pending application. See Letter from Diane J. Cornell, Chief, Telecommunications Division, International Bureau, FCC, to Steven W. Lett, Deputy U.S. Coordinator, Office of International Communications and Information Policy, U.S. Department of State (June 17, 1998). The Commission acts on cable landing license applications only after we receive notification whether the Department of State, on behalf of the Executive Branch, has any objection to the issuance of the cable landing license. If we consider Columbus-III in our calculations, we find that it would provide approximately 9 percent of transatlantic capacity but would have virtually no effect on the level of concentration on the transatlantic route. The combined entity's ownership share, for example, would increase .7 percent to 24 percent. See *supra* para. 92; Columbus-III Construction and Maintenance Revised Schedule H-5 (effective Apr. 17, 1998) (for transatlantic capacity ownership on Columbus-III, we use data from subsegment S5, the relevant segment for outgoing U.S. traffic, to derive fully allocated ownership shares).

50 carriers have entered into an agreement to construct TAT-14, a transatlantic cable scheduled to provide 640 Gbps, or capacity equivalent to approximately 250,000 additional E-1 circuits.³⁰⁶ A further system, Project OXYGEN™, has announced intentions to offer an additional 640 Gbps of capacity in regions all over the globe.³⁰⁷ CTR Group, Ltd. has managed the project but carriers may purchase ownership interests.³⁰⁸ These cable system plans further indicate that entry barriers are low and suggest that there will be ample opportunity for new entrants to obtain capacity on the transatlantic route. Thus, any temporary increase in concentration due to the merger is unlikely to have a continuing significance in the transatlantic transport market.

107. Moreover, recent history indicates that, as the amount of transport capacity increases, the transatlantic route is becoming less and less concentrated. Indeed, the level of concentration is decreasing even after the impact of the merger is taken into account. Using post-merger ownership shares, a HHI calculation reveals a concentration level in today's market of approximately 3,200 points. As noted above, the post-merger HHI for the market at the end of 1999 is approximately 2,500 points, a decrease of 700 points. But for the mitigating factors we have identified, a HHI of 2,500 points ordinarily would be considered to be a troublesome level. This reduction in concentration demonstrates that the potential for the exercise of market power is rapidly declining as more entities gain ownership of transatlantic capacity. Given that transport capacity is growing substantially, barriers to entry are low, and more companies have opportunities to gain access to cable ownership and capacity, it appears unlikely that the combined entity, either unilaterally or in a coordinated manner, would have the ability to exercise market power on the transatlantic transport route.

108. Finally, we are not persuaded by GTE that, with regard to the wholesale market for international transport capacity, the combined entity would have changed incentives "when faced with a request for capacity from a carrier" seeking to compete with AT&T, Sprint, and MCI WorldCom, because the combined entity would now be a significant competitor in the end user market.³⁰⁹ As we concluded above in relation to domestic long distance services, new providers of capacity have every incentive to provide transport to the

³⁰⁶ See *A Trans-Atlantic Cable Network Deal*, N.Y. Times, Sept. 3, 1998 at C2.

³⁰⁷ See CTR Group Ltd., *CTR Accelerates OXYGEN™ Rollout* <http://www.oxygen.org/news_0408_accel.html>.

³⁰⁸ See CTR Group Ltd., *Project OXYGEN™ Network Gathers US\$1.4 Billion Support from Carriers* <http://www.oxygen.org/news_1216_v.html>.

³⁰⁹ GTE Mar. 13 Comments at 60.

wholesale market.³¹⁰ In fact, AC-1 owner Global Crossing, which holds a significant share of transatlantic cable capacity, identifies itself as a "carrier's carrier" that does not compete with its customers in the retail market.³¹¹ MCI WorldCom's rational response would be to continue supplying wholesale capacity rather than to cede those revenues to another transport provider.

109. *Pacific Region.* We find that the combined entity will have no ability to exercise market power either unilaterally or in a coordinated manner because of its modest percentage of ownership in TPC-5 as well as the capacity becoming available on the transpacific route. Taken together, WorldCom and MCI currently own 25.7 percent of the U.S. end of transpacific capacity.³¹² A HHI review of the current transpacific capacity indicates that the merger would increase concentration from 2,121 points to 2,295 points.³¹³ As noted above, the China-U.S. cable system and the WDM upgrade on TPC-5 are scheduled to increase transpacific capacity substantially by the end of 1999. As a result, the combined entity's market share of U.S. half-circuits will drop to 9.6 percent, a substantial decrease from the combined current market share.³¹⁴ Using ownership shares for the end of 1999, a HHI review indicates that concentration on the transpacific route would increase from approximately 632 points to 650 points as a result of the merger.³¹⁵ According to the 1992 *Horizontal Merger Guidelines*, a HHI figure below 1,000 is considered an unconcentrated market which requires no further review.³¹⁶ Given the combined entity's low market share

³¹⁰ See *supra* para. 70.

³¹¹ Atlantic Crossing, *About Global Crossing Ltd.* <<http://www.atlantic-crossing.com/Contact/telesystems.htm>>.

³¹² MCI owns 21.6 percent of the U.S. end and WorldCom owns 4.1 percent of the U.S. end. See *supra* para. 93.

³¹³ The nine largest owners of capacity account for 86.8 percent of the capacity on the transpacific route. See Nov. 1997 TPC-5 Revised Schedules. The remaining owners, who number at least 70, account for 13.2 percent of the capacity; none of these remaining owners holds one percent or more of the unassigned capacity. For purposes of calculating the HHI, we use the market shares of the nine largest capacity owners and do not assign a value to the remaining owners' market shares, given their minimal market presence.

³¹⁴ MCI would own 8.5 percent and WorldCom would own 1.1 percent. See *supra* para. 94.

³¹⁵ The 16 largest owners of capacity account for 92.6 percent of the capacity on the transpacific route. See June 1998 TPC-5 Revised Schedules; China-U.S. C&MA. The remaining owners, who number at least 75, account for 7.4 percent of the capacity; none of these remaining owners holds one percent or more of the unassigned capacity. For purposes of calculating the HHI, we use the market shares of the 16 largest capacity owners and do not assign a value to the remaining owners' market shares, given their minimal market presence.

³¹⁶ See 1992 *Horizontal Merger Guidelines*, 57 Fed. Reg. at 41558, § 1.51.

and minimal increase in the HHI, we conclude that the combined entity would not have the ability to exercise market power in the transpacific transport market.

110. Furthermore, we note here that other transpacific cables, such as Pacific Crossing (PC-1), Southern Cross, the U.S.-Japan cable system, and Project OXYGEN™, are presently being planned. Again, we do not include these cables in our analysis of transport capacity because they do not meet our standard of reasonable certainty in examining planned capacity: grant of a U.S. cable landing license and a construction contract.³¹⁷ We nonetheless find that these cables, even at their current stage, suggest the existence of low entry barriers. We find that the combined entity's planned ownership interest in these cables is not sufficient to give us concern that it will have the ability to exercise market power on the transpacific route.³¹⁸

111. *Caribbean/Latin American Region.* Despite the high level of concentration in this region, we find that, given WorldCom's limited presence and low entry barriers, the merger is not likely to give the combined entity increased market power in the Caribbean/Latin American region. As noted above, the primary route for U.S. international traffic to this region is from the U.S. mainland to the U.S. Virgin Islands/Puerto Rico. MCI holds an ownership interest in 17.4 percent of the capacity on this route. WorldCom's ownership share is 3.7 percent and, combined with its minimal IRU interests in the region,³¹⁹ holds 3.8 percent of the capacity on this route. The proposed merger would increase the HHI concentration from 2,470 points to 2,600 points.³²⁰ Although concentration levels are high on this route, we find that, because of low barriers to entry as described below, coupled with WorldCom's limited presence, totaling less than 4 percent, the merger is unlikely to affect competition in the market for transport capacity along the U.S. mainland - U.S. Virgin Islands/Puerto Rico route.

³¹⁷ See *supra* para. 88.

³¹⁸ WorldCom will own, through an indirect, wholly owned subsidiary, a 10 percent interest in the Southern Cross cable. See WorldCom July 2 *Ex Parte* I Attach. at 2 (Optus Communications Pty Ltd. will own 40 percent and Telecom New Zealand Limited will own the remaining 50 percent).

³¹⁹ See WorldCom Aug. 28 *Ex Parte*.

³²⁰ The 10 largest owners of capacity account for 90.8 percent of the capacity on the U.S. mainland - U.S. Virgin Islands/Puerto Rico route. See Americas-I C&MA; Columbus-II C&MA; TCS-1 C&MA. The remaining owners, who number at least 35, account for 9.2 percent of the capacity; none of these remaining owners holds one percent or more of the unassigned capacity. For purposes of calculating the HHI, we use the market shares of the 10 largest capacity owners and do not assign a value to the remaining owners' market shares, given their minimal market presence.

112. On the route from the U.S. Virgin Islands/Puerto Rico to Latin American countries, MCI currently owns 17.4 percent and WorldCom owns 3.7 percent of capacity. The merger would increase the HHI concentration from 1,436 to 1,564 points.³²¹ We note here that capacity on this route will increase as a result of the Pan American cable system. By the end of 1999, MCI will hold ownership interests in 24.5 percent of the capacity and WorldCom is expected to own or hold IRU interests in 5.6 percent of the overall undersea cable capacity to these countries.³²² Here the post-merger HHI concentration would increase from 1,350 points to approximately 1,600 points.³²³

113. With respect to traffic to other Caribbean destinations, we note that although transport capacity on some routes is concentrated, the proposed merger would have little or no effect on the level of concentration for most routes. On the route from Puerto Rico to the Dominican Republic, for example, the merger would increase the HHI from 1,300 to 1,350 points, an increase that is not likely to have an effect in such a moderately concentrated market.³²⁴ The merger would have its largest effect on the U.S. Virgin Islands - Puerto Rico route, where MCI has 12.9 percent and WorldCom has 4.9 percent of the cable capacity.³²⁵

³²¹ The 12 largest owners of capacity account for 91.8 percent of the capacity on the U.S. Virgin Islands/Puerto Rico - Latin American countries route. *See Americas-I C&MA; TCS-1 C&MA.* The remaining owners, who number at least 20, account for 8.2 percent of the capacity; none of these remaining owners holds one percent or more of the unassigned capacity. For purposes of calculating the HHI, we use the market shares of the 12 largest capacity owners and do not assign a value to the remaining owners' market shares, given their minimal market presence.

³²² *See Americas-I C&MA; TCS-1 C&MA; Pan American Cable System C&MA; WorldCom Aug. 28 Ex Parte at 1.*

³²³ The 11 largest owners of capacity account for 88 percent of the capacity on the U.S. Virgin Islands/Puerto Rico - Latin American countries route. *See Americas-I C&MA; Pan American C&MA; TCS-1 C&MA.* The remaining owners, who number at least 30, account for 12 percent of the capacity; none of these remaining owners holds one percent or more of the unassigned capacity. For purposes of calculating the HHI, we use the market shares of the 11 largest capacity owners and do not assign a value to the remaining owners' market shares, given their minimal market presence.

³²⁴ The 12 largest owners of capacity account for 89.7 percent of the capacity on the route between Puerto Rico and the Dominican Republic. *See TCS-1 C&MA; Antillas I C&MA.* The remaining owners account for 10.3 percent of the capacity, but none of these remaining owners holds one percent or more of the unassigned capacity. For purposes of calculating the HHI, we use the market shares of the 12 largest capacity owners and do not assign a value to the remaining owners' market shares, given their minimal market presence.

³²⁵ *See TAINO-CARIB C&MA at Schedule D at 3.*

The merger would increase the HHI concentration from 3,050 to 3,176 points on this route.³²⁶ We note that this HHI calculation overestimates the level of concentration because there are alternative paths available for U.S. Virgin Islands and Puerto Rico traffic. For example, traffic may be sent directly from the U.S. mainland either to the U.S. Virgin Islands or to Puerto Rico without relying on the other as a hub. In addition, traffic between these two hubs may also be routed via the U.S. mainland. As a result, we find that it is unlikely that the merger would affect competition in the market for transport capacity in the Caribbean/Latin American region because of low entry barriers and WorldCom's limited presence on these routes.³²⁷

114. A substantial amount of new capacity in the Caribbean/Latin American region will become available by the end of 1999. The Americas-II cable is expected to provide capacity equivalent to 20,160 E-1 circuits from the U.S. mainland to the U.S. Virgin Islands and then down the eastern coast of South America.³²⁸ As with the transatlantic route, it

³²⁶ The eight largest owners of capacity account for 95.8 percent of the capacity on the route between the U.S. Virgin Islands and Puerto Rico. *See id.* The remaining owners account for 4.2 percent of the capacity, but none of these remaining owners holds one percent or more of the unassigned capacity. For purposes of calculating the HHI, we use the market shares of the eight largest capacity owners and do not assign a value to the remaining owners' market shares, given their minimal market presence.

³²⁷ Because WorldCom's ownership share of foreign half-circuits on any segment in the Caribbean/Latin American region is so small, the proposed merger with MCI does not in itself raise vertical concerns that could otherwise result from WorldCom ownership of foreign half-circuits. In particular, WorldCom holds foreign half-circuit ownership or IRU interests on the U.S. mainland - U.S. Virgin Islands/Puerto Rico route amounting to 2.1 percent of capacity. *See* Americas-I C&MA at Schedule D-1; Columbus-II C&MA at Schedule D-2; TCS-I C&MA at Schedule D at 1. On routes between U.S. Virgin Islands/Puerto Rico and Latin American countries, WorldCom holds only 4.8 percent of the foreign half-circuits. *See* Americas-I C&MA at Schedule D-1; Pan American C&MA at Schedule D1; TCS-I C&MA at Schedule D at 3. Within the Caribbean region itself, WorldCom holds only 1.4 percent of the foreign half-circuits. Moreover, on the route between the U.S. Virgin Islands and Puerto Rico, WorldCom would hold only 3.5 percent of the foreign half-circuits. *See* TAINO-CARIB C&MA at Schedule D at 3.

³²⁸ We note here that the International Bureau has granted a special temporary authorization (STA) for the Americas-II cable. Special Temporary Authority for AT&T Corp. *et al.*, File No. TAO-2629, at 5 (Mar. 31, 1998, Sept. 2, 1998) (Americas-II STA). As discussed above, *see supra* note 305, an STA does not constitute a section 214 authorization or a cable landing license, and thus we do not include this cable in our analysis of concentration of cable capacity in the Caribbean/Latin American region. An application is pending before the Commission. *See* Joint Application of AT&T Corp. *et al.*, File No. SCL 98-003 (filed Apr. 30, 1998); File No. SCL 98-003(A) (amending the original application) (filed July 30, 1998). Pursuant to our rules, we have informed the Department of State of the pending application. *See* Letters from Diane J. Cornell, Chief, Telecommunications Division, International Bureau, Federal Communications Commission, to Steven W. Lett, Deputy U.S. Coordinator, Office of International Communications and Information Policy, U.S. Department of State (May 12, June 17, and Aug. 20, 1998). If we consider Americas-II in our calculations, ownership shares of capacity in the region shift, but our findings remain the same: because of WorldCom's small market presence in

appears that barriers to entry are low. Recent history indicates that new cable systems can be conceived and constructed within two years. As discussed above, the costs of construction are decreasing significantly. As a result, we find that further entry of transcaribbean capacity would be timely, likely, and sufficient. Other entities have expressed interest in expanding cable capacity in this region. For example, the Mid-Atlantic Crossing and the Pan-American Crossing are expected to add significant capacity on U.S.-Latin American routes.³²⁹ Project OXYGEN™ has announced its intention to introduce service in this region by the end of 2001.³³⁰ We find that these cables, even at their current stage, further suggest the existence of low entry barriers. Because entry is easy and capacity is growing, we find that the increase in concentration due to the merger is unlikely to have continuing significance in the Caribbean/Latin American transport market.

d. Other Input Markets

115. Many other inputs are essential for the provision of international services, but there is no evidence in the record to demonstrate that the proposed merger would affect competition adversely in any of these markets. For example, we conclude that the combined entity would not have the ability to exercise market power in the provision of U.S. backhaul, which is a high capacity private line used to carry traffic between a submarine cable landing station and a carrier's international switch or point of presence. GTE alleges that "it is conceivable" that the combined entity, either unilaterally or in concert with other carriers,

this region, the effect of the merger on concentration is not significant. By the end of 1999, MCI's share of capacity from the U.S. mainland to the U.S. Virgin Islands/Puerto Rico would increase to 41.3 percent (in large part due to its acquisition of Embratel), followed by AT&T with 22 percent, Sprint with 14.7 percent, Telintar with 8.3 percent, and WorldCom with 2.3 percent (including WorldCom ownership and IRU interests). *See Americas-I C&MA at Schedule D-1; Columbus-II C&MA at Schedule D-2; TCS-1 C&MA at Schedule D at 1; Americas-II Construction and Maintenance Agreement Revised Schedules at Schedule D (Feb. 27, 1998); WorldCom Aug. 28 Ex Parte.* Despite the shift in ownership shares, the level of concentration on this route would remain nearly the same, with a post-merger HHI calculation of 2,680 points. Again, because of WorldCom's limited presence on this route, which drops from 3.8 percent to 2.3 percent when Americas-II is included, the effect of the merger is not significant despite the high level of concentration on the route. We reach the same conclusion with regard to the other routes in this region. From the U.S. Virgin Islands/Puerto Rico to Latin American countries, WorldCom's ownership and IRU interests amount to 1.9 percent, and to other Caribbean islands WorldCom's presence is 4.1 percent with no more than 5.3 percent on any individual route. *See id.*

³²⁹ *See* Global Crossing, *Mid-Atlantic Crossing* <<http://www.globalcrossing.bm>>; Global Crossing, *Pan American Crossing* <<http://www.globalcrossing.bm>>.

³³⁰ *See* Project OXYGEN™, *Construction Schedule* <http://www.oxygen.org/project_oxygen_overview/slds027.htm>.

could exercise market power in the provision of backhaul.³³¹ GTE, however, provides no evidence to support this claim. We find that the appropriate geographic market for backhaul is regional because backhaul is, in effect, the domestic extension of submarine cable systems, which we examine above on a regional basis. We therefore examine the provision of backhaul to three regions: Atlantic, Pacific, and Caribbean/Latin America. The Atlantic region is the only geographic market in which WorldCom and MCI both own backhaul capacity.³³² The record lacks any evidence to demonstrate that the combined entity, either unilaterally or in concert with others, would have the ability to exercise market power in the U.S. backhaul market. Even if the combined entity were to attempt to raise prices, however, it would lack the ability to restrict customers from obtaining new sources of backhaul. WorldCom states that Gemini generally sells IRUs for "city-to-city" (*i.e.*, London-New York) capacity, but that "any customer that chooses to collocate at a cable station would be able to provide its own backhaul."³³³ MCI, which provides some backhaul on TAT-12/13 to its own network but not to other entities,³³⁴ does not control the ability of other carriers to provide backhaul on that cable. AT&T, as the TAT-12/13 cable landing station owner, provides U.S. parties with collocation and interconnection.³³⁵ With regard to the AC-1 cable, Global Crossing, like Gemini, states that "the customer may choose to collocate their own equipment at the cable stations and carry the traffic inland to their own network."³³⁶ We find that the combined entity, therefore, would not have the ability to prohibit or limit other carriers from providing backhaul capacity in this region.

116. In addition, we do not agree with GTE's position that we should examine international private line services as a separate input market.³³⁷ As discussed above, we

³³¹ GTE Jan. 5 Petition at 41.

³³² See WorldCom/MCI Jan. 26 Reply Comments at 64-65; WorldCom July *Ex Parte* I Attach. at 2 n.3; Letter from John M. Scoree, Senior Counsel, International Regulatory Affairs Law and Public Policy, MCI, to Magalie Roman Salas, Secretary, FCC at 1 (filed Aug. 31, 1998) (MCI Aug. 31 *Ex Parte*).

³³³ See WorldCom July 2 *Ex Parte* I Attach. at 2.

³³⁴ See MCI Aug. 31 *Ex Parte* at 1.

³³⁵ See *id.* at 1-2.

³³⁶ See Atlantic Crossing, *The Project: Service Overview* <http://www.atlantic-crossing.com/project/service_overview.htm>.

³³⁷ See GTE Jan. 5 Petition at 35 n.68; GTE Mar. 13 Comments at 49. GTE asserts that international private lines are an input when sophisticated businesses such as banks or airlines obtain them to form their own private network. In fact, this example illustrates private lines as an end user service obtained by customers for their own purposes. See also Telstra Jan. 5 Comments at 7 (asserting that the Commission should examine the

conclude that the relevant input product market is the broad category of international transport capacity.³³⁸ Capacity is merely a physical link offering the capability to provide any service, whether it is primarily voice or data or classified as International Message Telephone Service (IMTS) or non-IMTS (primarily private line). The cable owner provides the transmission path; the carrier decides the type of service that will be provided over that link.

117. We note that other inputs, such as operating agreements to exchange traffic with foreign carriers, are essential inputs in the provision of international services. Generally, U.S. carriers are able to obtain operating agreements or establish alternative arrangements to provide international services.³³⁹ There is no evidence in the record that operating agreements or other inputs warrant review as relevant markets for purposes of this merger analysis.

118. *Conclusion.* We conclude that the merger likely will not have an anticompetitive effect in any relevant international input market. The combination of WorldCom's and MCI's facilities, both current and planned, is unlikely to be sufficient to allow the combined entity to exercise market power given the low barriers to entry and substantial amount of non-MCI WorldCom capacity becoming available.

2. End User Markets

a. Relevant Markets

119. *Product Market.* With the development of innovative communications technologies and the benefits of increasing competition in foreign markets, carriers are finding creative ways to offer the services most desired by international customers. These offerings

market for international private lines used to provide Internet access).

³³⁸ See *supra* para. 82.

³³⁹ See *AT&T International Non-Dominance Order*, 11 FCC Rcd at 17981-82, paras. 50-51 (finding that multiple U.S. carriers have operating agreements to nearly all foreign countries for the provision of IMTS); *International Competitive Carrier Policies*, CC Docket No. 85-107, Report and Order, 102 F.C.C.2d 812, 835, para. 56 (1985) (*International Competitive Carrier*) (finding that foreign carriers are likely to enter operating agreements for the provision of non-IMTS services). Furthermore, as countries implement their market access commitments made as part of the WTO Basic Telecom Agreement, U.S. carriers will be able to obtain operating agreements from new entrants as well as incumbent carriers in these countries. In addition, carriers have been successful in providing international service through alternative arrangements such as switched hubbing through a third country. See *AT&T International Non-Dominance Order*, 11 FCC Rcd at 17982, para. 51. We are not persuaded by GTE's assertion that hubbing and other forms of transit are merely a "theoretical possibility." See GTE Jan. 5 Petition at 32 n.65. Such routing, in fact, does occur. A staff review of preliminary 1997 section 43.61 traffic and revenue reports indicates that at least seven carriers have reported the provision of switched telephone service on a switched hubbing basis.

often transcend the historical classifications of voice-based International Message Telephone Service (IMTS) and data-based non-IMTS.³⁴⁰ Given the dynamic nature of the telecommunications marketplace, we find that the IMTS/non-IMTS product market distinction is no longer the most appropriate analytical framework for purposes of our merger analysis. Instead, as we discuss below, we identify and review two international service end user product markets: mass market and larger business.

120. We recognize that in the 1985 *International Competitive Carrier* decision, the Commission identified IMTS and non-IMTS as two separate product markets.³⁴¹ In that decision, the Commission relied both on demand and supply substitutability in identifying relevant product markets.³⁴² In 1997, however, the Commission adopted an analytical framework, consistent with the 1992 *Horizontal Merger Guidelines*, in which we rely only on demand considerations to identify relevant product markets.³⁴³ Applying this analytical framework, in conjunction with the Applicants' comments regarding product markets, we are persuaded that the mass market and larger business market are the most appropriate end user markets for reviewing the competitive effects of the proposed merger on the U.S. international services market.³⁴⁴

121. GTE asserts that end user consumers view international private line service as offering flat-rate, dedicated, or secure service to pre-defined points, and IMTS as offering

³⁴⁰ See *International Competitive Carrier*, 102 F.C.C.2d at 824-825, paras. 27-28.

³⁴¹ See *id.* at 823, para. 25.

³⁴² See *id.*

³⁴³ See *LEC Regulatory Treatment Order*, 12 FCC Rcd at 15773-15777, paras. 25-30; *Bell Atlantic/NYNEX Order*, 12 FCC Rcd at 20008-20009, para. 37; *BT/MCI Order*, 12 FCC Rcd at 15367-68, para. 34.

³⁴⁴ We note here that in our recent *Comsat Non-Dominance Order*, we identified four relevant product markets: switched voice telephony; private lines; full-time video service; and occasional-use video service. See *Comsat Non-Dominance Order* at para. 26. In that proceeding, neither the parties nor the evidence in the record prompted us to review relevant product markets identified in the *International Competitive Carrier* decision. See *id.* at para. 34 ("Neither Comsat nor the parties dispute [the *International Competitive Carrier* product markets] and nothing in the record causes us to revisit this finding."). The identification of separate switched voice and private line product markets in that order had no effect on our ultimate analysis. For both product markets, we reclassified Comsat as a non-dominant common carrier for the "thick route" markets but not for the "thin route" markets. A "thick route" market is served by multiple cable and satellite carriers. As noted above, a "thin route" market is not linked to the United States by cable and is served only by satellite providers. See *id.* at para. 28. Thus, our findings did not depend on whether Comsat was offering a switched voice or private line service but rather on the type of geographic route on which either service was being offered.

usage-charged, as-needed service to any point.³⁴⁵ Today, however, the distinction between IMTS and non-IMTS service is blurring. Indeed, there are IMTS-based offerings that provide customers with the functionality traditionally associated with international private line service. As an alternative to private line service, for example, carriers have installed software programs that provide virtual private networks that use the public switched network. Conversely, non-IMTS services are also being used as substitutes for IMTS service. For instance, end users are using packet-switched services to obtain voice services over non-IMTS private line networks rather than international circuit-switched paths. Given the current marketplace, we believe that the IMTS/private line distinction no longer is the most appropriate analytical framework in which to analyze the international services market. As discussed further below, for purposes of this proceeding, we nonetheless respond to GTE's claims regarding IMTS and private line service.

122. As we concluded above in our analysis of domestic long distance services, we view international services as being provided in two product markets defined by the class of customers that are served: (1) the mass market which serves residential customers and small businesses; and (2) the larger business market which serves medium- and large-business customers.³⁴⁶ Mass market consumers generally demand international services with access to all points, charged at a per-minute rate, and available on an as-needed basis. By contrast, larger business customers use many different types of services, including specialized business services which may be provided via IMTS or international private lines. Larger business customers also demand greater volume of any-to-any, on-demand services than mass market customers, and thus qualify for volume discounts that are unavailable, as a practical matter, to mass market customers.

123. *Geographic Market.* As the Commission has concluded previously, we also find that each international route between the United States and a foreign country is a

³⁴⁵ See GTE Mar. 13 Comments at 46-48; GTE June 11 Renewed Motion at 44 n.117.

³⁴⁶ See *supra* section IV.A.2. In the *BT/MCI Order*, we identified mass market and larger business segments of the international services market. See *BT/MCI Order*, 12 FCC Rcd at 15375, para. 50. As noted above, we clarify in this Order that the mass market and larger business market constitute separate relevant product markets. See *supra* para. 25. We recognize here that, under the *1992 Horizontal Merger Guidelines*, it may be possible to identify additional and narrower relevant product markets within these two broader end user markets. See *1992 Horizontal Merger Guidelines*, 57 Fed. Reg. at 41554-44, § 1.11. We find, however, that we do not need to make such a determination because within each of the product markets identified above, international service providers generally provide all the same services, and production substitution among these services is "nearly universal." Cf. *id.* at 41557, § 1.32 n.14. See also *supra* para. 27.

separate geographic market.³⁴⁷ We conclude, however, that with the exception of the U.S.-Brazil route,³⁴⁸ we can examine aggregate information that encompasses all international point-to-point markets. No party has submitted credible evidence that the competitive characteristics on any route are sufficiently dissimilar to other routes so as to prevent an aggregate analysis.³⁴⁹ Using this framework, we therefore seek to determine whether the proposed merger will have any anticompetitive effects on any U.S.-international route.

b. Market Participants

124. There are hundreds of carriers that compete with WorldCom and MCI in the market for U.S. international services, which in 1996 generated revenues of approximately \$18 billion.³⁵⁰ Overall, AT&T is the largest participant with approximately a 59 percent share of revenues. MCI is the next largest participant with approximately a 25 percent share, followed by Sprint with approximately a 10.4 percent share, and WorldCom with approximately a 3 percent share.³⁵¹

125. *Mass Market.* AT&T, MCI, and Sprint are the largest participants in the provision of international services to mass market customers.³⁵² WorldCom is also a

³⁴⁷ See *LEC Regulatory Treatment Order*, 12 FCC Rcd at 15801, para. 80. See also *AT&T International Non-Dominance Order*, 11 FCC Rcd at 17974-75, paras. 31-33.

³⁴⁸ See *infra* note 359.

³⁴⁹ See *LEC Regulatory Treatment Order*, 12 FCC Rcd at 15801, para. 80. See also *BT/MCI Order*, 12 FCC Rcd at 15375, para. 51. Without other information, high market shares and HHI calculations of end user revenues do not necessarily indicate the existence of market power on a particular route. See *infra* paras. 137, 138. In the *LEC Regulatory Treatment Order*, the Commission concluded that myriad factors could affect a decision whether to examine a point-to-point market separately, such as whether a U.S. international carrier was affiliated with an incumbent foreign carrier or whether a U.S. carrier controls a dominant portion of the capacity of the U.S. half of a particular international point-to-point market. See *LEC Regulatory Treatment Order*, 12 FCC Rcd at 15801, para. 80.

³⁵⁰ See *1996 Section 43.61 Report* at Figure 7 (examining U.S.-billed revenues for facilities-based and facilities-resale services) & Table D1 (examining IMTS resale service).

³⁵¹ See *id.* at Figure 7.

³⁵² In 1996, AT&T earned 60.1 percent of the total U.S. international telephone service revenues, followed by MCI with 24.9 percent, and Sprint with 10.5 percent. See *id.* at Table E1 (examining IMTS traffic billed in the United States). We recognize that the IMTS data include both mass market and larger business customers, but we believe that the data serve as a reasonable approximation for carriers' market presence in the mass market.

participant in this market, although 1996 data reflect that it is a smaller market participant.³⁵³ In addition, there are hundreds of other carriers, including some facilities-based and many resale carriers, that offer services used primarily by mass market customers. Additionally, the BOCs represent precluded competitors in the U.S. international services market, at least with respect to the provision of in-region international services.³⁵⁴

126. *Larger Business.* AT&T, MCI, Sprint, and WorldCom are the largest participants in the provision of international services to larger business customers.³⁵⁵ We also find that several other carriers are participants in this market.³⁵⁶ In addition, we find that the BOCs are also precluded competitors in the larger business market, again with respect to the provision of in-region international services. We also expect that, given our new market entry rules implementing the U.S. commitments in the WTO Basic Telecom Agreement,³⁵⁷ an increasing number of foreign carriers will also obtain section 214 authorization to provide international services and are likely to offer services to larger business customers.³⁵⁸

³⁵³ In 1996, WorldCom earned 2.6 percent of the total U.S. international telephone service revenues. See *id.* We recognize that, in the *Comsat Non-Dominance Order*, the Commission observed that WorldCom was "among the most significant market participants in the mass market." See *Comsat Non-Dominance Order* at para. 56. Although WorldCom is the fourth largest carrier in this market, the 1996 data indicate that its market share is significantly below the top three carriers. We note here, moreover, that the Commission's findings in the *Comsat Non-Dominance Order* did not depend on the identification of WorldCom as among the most significant market participants in the mass market.

³⁵⁴ See *BT/MCI Order*, 12 FCC Rcd at 15383-84, paras. 76-77.

³⁵⁵ See 1996 Section 43.61 Report at Figure 7.

³⁵⁶ See *id.* We find that several carriers provide private line services, which generally are purchased by larger business customers, and thus are a reasonable approximation of market presence in the larger business market. We note again here, however, that larger business customers demand many different types of services, some of which are classified as IMTS and others as non-IMTS (primarily private line).

³⁵⁷ See *Rules and Policies on Foreign Participation in the U.S. Telecommunications Market and Market Entry and Regulation of Foreign-Affiliated Entities*, IB Docket Nos. 97-142 and 95-22, Report and Order and Order on Reconsideration, 12 FCC Rcd 23891 (1997) (*Foreign Participation Order*), recon. pending.

³⁵⁸ See Public Notice, *FCC Grants over 200 International Service Applications in First 90 Days of New Foreign Participation Rules* (rel. May 14, 1998) (noting that in the first 90 days following implementation of the Commission's new market entry rules, 200 carriers including 26 foreign carriers received section 214 authorizations to provide international services).

c. Analysis of Competitive Effects

127. We examine here whether the proposed merger will reduce competition in the relevant markets, compared with the competitive conditions that would exist absent the merger. We reiterate that we are concerned with potential horizontal competitive effects.³⁵⁹

128. *Mass Market.* We conclude that the proposed merger likely will not have anticompetitive effects in the mass market. As discussed above, both the Applicants and parties agree that WorldCom is currently not a significant competitor in the provision of long distance services to domestic mass market consumers.³⁶⁰ Mass market consumers currently presubscribe to a single carrier for the provision of both domestic long distance and international services.³⁶¹ Thus, if WorldCom is not a major competitor for domestic long distance service it is unlikely that WorldCom is a major competitor for the provision of international services to the mass market. To the extent that WorldCom provides wholesale capacity used by other carriers to offer mass market services, we find above that new capacity and additional owners will provide this service and will prompt the combined entity to continue its existing practices rather than cede revenue to competing wholesale providers.³⁶²

129. Moreover, WorldCom does not possess any special retail assets or capabilities that would make it more likely than other carriers to become a major participant in the mass market. Entrants into the mass market are likely to be successful to the degree that they possess, now or in the near future, a strong mass market presence, which may include brand

³⁵⁹ MCI's recent acquisition of Embratel, the Brazilian long distance and international monopoly carrier, *see supra* para. 96, raises concerns with regard to potentially harmful vertical effects on the U.S.-Brazil route. Given WorldCom's limited transport capacity in the Caribbean region, *see supra* paras. 97 and 98, and its small (7 percent) share of revenues on the U.S.-Brazil route, *see 1996 Section 43.61 Report* at Tables A1, B1, A55, & B36, we find that the merger of WorldCom and MCI will not itself increase the risk of any anticompetitive effects already present. We expect that in the near future MCI will update its notification of affiliation to provide greater detail with regard to its purchase of Embratel, at which time we will determine whether to impose international "dominant carrier" regulation on the combined entity for the U.S.-Brazil route.

³⁶⁰ *See supra* section IV.A.2. WorldCom, moreover, has indicated that it has not focused on the mass market. *See WorldCom July 8 Ex Parte Grillo Aff.* at 4. *See also supra* note 353.

³⁶¹ *See Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Second Report and Order and Memorandum Opinion and Order, 11 FCC Rcd 19392, 19417 at para. 45 (1996) (*Local Competition Second Report and Order*) (finding that technical limitations at that time precluded adoption of a nationwide policy requiring a separate presubscription choice for international calling), *vacated in part, People of the State of California v. FCC*, 124 F.3d 934 (8th Cir. Aug. 22, 1997), *cert. granted, AT&T Corp. v. Iowa Util. Bd.*, 118 S.Ct. 879 (Jan. 26, 1998).

³⁶² *See supra* para. 108.

name recognition, reputation, and local customer base. In the U.S. international services market, these attributes are not route specific, except in the case where an entrant is affiliated with an incumbent carrier on the foreign end of a particular route. Non-BOC incumbent LECs such as GTE have capitalized on their brand name recognition, reputation, and local customer base as they provide international services to the mass market. In addition, once granted section 271 authority, the BOCs are likely to become major international services providers within their respective regions, given their local customer base and their marketing and organizational capabilities. As a result, we find that the merger of WorldCom and MCI is not likely to affect adversely competition in this consumer market.

130. *Larger Business.* We find that the combined entity is unlikely to have the ability to act anticompetitively in the provision of services to the larger business market. As we concluded above, MCI WorldCom would not exercise market power over essential inputs, and barriers to entry in the provision of these services are low.

131. The provision of services to larger business customers depends in large part on the ability to obtain critical inputs such as international transport capacity and operating agreements with carriers on the foreign end, as well as the technical ability to provide the services demanded by larger business customers. As discussed above, we find that the combined entity will not have the ability to exercise market power in the international transport market, and the merger, therefore, will not adversely affect the ability of other carriers to obtain capacity.³⁶³ As we noted above, U.S. carriers generally are able to obtain operating agreements or use alternative arrangements to provide international services.³⁶⁴ Nor do we find it likely that the merger could result in problems in obtaining operating agreements to provide international services.³⁶⁵

132. Moreover, we find that many carriers have the technical capability to provide larger business services. The special assets and capabilities (*i.e.*, brand recognition, reputation, and local customer base) that are important attributes in serving the mass market are not as important here. Rather, carriers need only have the ability to offer dedicated services (end-to-end or virtual), bundle specialized services, and provide significant support and maintenance. Many carriers have these capabilities. Moreover, these capabilities are not

³⁶³ See *supra* section IV.B.1.

³⁶⁴ See *supra* para. 117.

³⁶⁵ We recognize that where a U.S. carrier is affiliated with a foreign carrier that possesses market power on the foreign end of a U.S. international route, concern may arise with regard to preferential treatment related to operating agreements or the provision of service. In such circumstances, our international "dominant carrier" safeguards, our "no special concessions" rule, and our International Settlements Policy address such concerns. See *Foreign Participation Order*, 12 FCC Rcd at 23957-23965, 23999-24022, paras. 156-170, 240-292.